

# Darryl Hannan

Machine Learning Researcher

 [hannandarryl.github.io](https://github.com/hannandarryl)  Seattle, WA

## Education

---

### Doctor of Philosophy

Computer Science

Member of SPARSE Coding Lab, advised by Professor Edward Kim.

Drexel University

June 2022 – September 2024

### Master of Science

Computer Science

Member of MURGe-Lab, advised by Professor Mohit Bansal.

University of North Carolina at Chapel Hill

August 2018 – May 2021

### Bachelor of Science

Computer Science

Major: Computer Science

Concentration: Cognitive Science

GPA: 3.77

Villanova University

August 2014 – May 2018

## Research Experience

---

### Pacific Northwest National Laboratory

PhD Intern

Research in the areas of computer vision and neuromorphic computing as part of National Security Internship Program.

July 2023 – Present

Seattle, Washington (Remote)

### Drexel University

NSF Fellow

Conducted research focused on biologically-inspired learning techniques, event-based video processing, and neuromorphic computing.

June 2022 – Present

Philadelphia, Pennsylvania (Remote)

### Drexel University

Artificial Intelligence Engineer

Implemented and applied biologically-inspired learning techniques to a pneumothorax classification task.

September 2021 – June 2022

Philadelphia, Pennsylvania (Remote)

### University of North Carolina at Chapel Hill

Research Assistant/NSF Fellow

Conducted research spanning a variety of subfields in NLP, with an emphasis on multimodal processing.

August 2018 – August 2021

Chapel Hill, North Carolina

### Tencent America

NLP Research Intern

Conducted research on improving transformer-based conversational QA models via dialogue generation techniques.

Summer 2020

Bellevue, Washington (Remote)

### Los Alamos National Laboratory

Applied Machine Learning Fellow

Applied biologically-inspired sparse-coding model to language, attempting to exploit top-down feedback to influence sentence-level representations.

Summer 2018

Los Alamos, New Mexico

### Los Alamos National Laboratory

Student Research Scientist

Developed a multimodal deep sparse coding model using biologically-inspired learning techniques.

Summer 2017

Los Alamos, New Mexico

## Publications

---

### [The Impact of an XAI-Augmented Approach on Binary Classification with Scarce Data](#)

IJCAI XAI Workshop 2024

Ximing Wen, Rosina O. Weber, Anik Sen, **Darryl Hannan**, Steven C. Nesbit, Vincent Chan, Alberto Goffi, Michael J. Morris, John C. Hunninghake, Nicholas E. Villalobos, Edward Kim, and Christopher J. MacLellan

### [Interpretable Models for Detecting and Monitoring Elevated Intracranial Pressure](#)

ISBI 2024

**Darryl Hannan**, Steven C. Nesbit, Ximing Wen, Glen Smith, Qiao Zhang, Alberto Goffi, Vincent Chan, Michael J. Morris, John C. Hunninghake, Nicholas E. Villalobos, Edward Kim, Rosina O. Weber, and Christopher J. MacLellan

### [Event-to-Video Conversion for Overhead Object Detection](#)

SSIAI 2024

**Darryl Hannan**, Ragib Arnab, Gavin Parpart, Garrett T. Kenyon, Edward Kim, and Yijing Watkins

### [MobilePTX: Sparse Coding for Pneumothorax Detection Given Limited Training Examples](#)

IAAI 2023

**Darryl Hannan**, Steven C. Nesbit, Ximing Wen, Glen Smith, Qiao Zhang, Alberto Goffi, Vincent Chan, Michael J. Morris, John C. Hunninghake, Nicholas E. Villalobos, Edward Kim, Rosina O. Weber, and Christopher J. MacLellan

### [StoryDALL-E: Adapting Pretrained Text-to-Image Transformers for Story Continuation](#)

ECCV 2022

Adyasha Maharana, **Darryl Hannan**, and Mohit Bansal

### [RESIN-11: Schema-guided Event Prediction for 11 Newsworthy Scenarios](#)

NAACL 2022

Xinya Du, Zixuan Zhang, Sha Li, Pengfei Yu, Hongwei Wang, Tuan Lai, Xudong Lin, Ziqi Wang, Iris Liu, Ben Zhou, Haoyang Wen, Manling Li, **Darryl Hannan**, Jie Lei, Hyounghun Kim, Rotem Dror, Haoyu Wang, Michael Regan, Qi Zeng, Qing Lyu, Charles Yu, Carl Edwards, Xiaomeng Jin, Yizhu Jiao, Ghazaleh Kazeminejad, Zhenhailong Wang, Chris Callison-Burch, Mohit Bansal, Carl Vondrick, Jiawei Han, Dan Roth, Shih-Fu Chang, Martha Palmer, and Heng Ji

### [Improving Generation and Evaluation of Visual Stories via Semantic Consistency](#)

NAACL 2021

Adyasha Maharana, **Darryl Hannan**, and Mohit Bansal

### [ManyModalQA: Modality Disambiguation and QA over Diverse Inputs](#)

AAAI 2020

**Darryl Hannan**, Akshay Jain, and Mohit Bansal

### [Deep Sparse Coding for Invariant Halle Berry Neurons](#)

CVPR 2018

Edward Kim, **Darryl Hannan**, and Garrett Kenyon

## Posters

---

### [Emojis and Weather](#)

CCSCNE 2018

## Awards

---

**National Science Foundation GRFP Fellowship (15% acceptance)**

2019

**Applied Machine Learning Summer Research Fellowship (10% acceptance)**

2018

**Villanova Center for Research and Fellowships Research and Travel Grant**

2017

## Service

---

|   |           |
|---|-----------|
| <b>Reviewer for WACV</b>                              | 2024-2025 |
| <b>Reviewer for EACL-SW</b>                           | 2024      |
| <b>Reviewer for SSIAI</b>                             | 2024      |
| <b>Reviewer for Workshop on Document Intelligence</b> | 2019      |